



PLW L 4.31

中华人民共和国国家知识产权局

邮政编码: 100101 北京市朝阳区北辰东路 8 号汇宾大厦 A0601 北京市柳沈律师事务所 黄小临, 王志森	发文日期 <div style="text-align: center;">  </div>
申请号: 200410035237X <div style="text-align: center;">  </div>	
申请人: 三星电子株式会社	
发明创造名称: 电子节目杂志	

第一次审查意见通知书

1. ☒ 应申请人提出的实审请求, 根据专利法第 35 条第 1 款的规定, 国家知识产权局对 501 号发明专利申请进行实质审查。
☐ 根据专利法第 35 条第 2 款的规定, 国家知识产权局决定自行对上述发明专利申请进行审查。
2. ☒ 申请人要求以在:

KR	专利局的申请日	2003 年 01 月 30 日	为优先权日,
	专利局的申请日	年 月 日	为优先权日,
	专利局的申请日	年 月 日	为优先权日,
	专利局的申请日	年 月 日	为优先权日,
	专利局的申请日	年 月 日	为优先权日,

☒ 申请人已经提交了经原申请国受理机关证明的第一次提出的在先申请文件的副本。
☐ 申请人尚未提交经原申请国受理机关证明的第一次提出的在先申请文件的副本, 根据专利法第 30 条的规定视为未提出优先权要求。
3. ☐ 经审查, 申请人于:

年 月 日	提交的	不符合实施细则第 51 条的规定;
年 月 日	提交的	不符合专利法第 33 条的规定;
年 月 日	提交的	
4. 审查针对的申请文件:

☒ 原始申请文件。 ☐ 审查是针对下述申请文件的

申请日提交的原始申请文件的权利要求第	项、说明书第	页、附图第	页;
年 月 日提交的权利要求第	项、说明书第	页、附图第	页;
年 月 日提交的权利要求第	项、说明书第	页、附图第	页;
年 月 日提交的权利要求第	项、说明书第	页、附图第	页;
年 月 日提交的说明书摘要,	年 月 日	提交的摘要附图。	
5. ☐ 本通知书是在未进行检索的情况下作出的。
☒ 本通知书是在进行了检索的情况下作出的。
☒ 本通知书引用下述对比文献(其编号在今后的审查过程中继续沿用):

编号	文件号或名称	公开日期 (或抵触申请的申请日)
1	W00147238A2	2001. 06. 28
6. 审查的结论性意见:

☐ 关于说明书:

☐ 申请的内容属于专利法第 5 条规定的不授予专利权的范围。
☐ 说明书不符合专利法第 26 条第 3 款的规定。



- ☐说明书不符合专利法第 33 条的规定。
☐说明书的撰写不符合实施细则第 18 条的规定。
☐

☒关于权利要求书:

- ☐权利要求 不具备专利法第 22 条第 2 款规定的新颖性。
☒权利要求 1-11, 13-15 不具备专利法第 22 条第 3 款规定的创造性。
☐权利要求 不具备专利法第 22 条第 4 款规定的实用性。
☐权利要求 属于专利法第 25 条规定的不授予专利权的范围。
☐权利要求 不符合专利法第 26 条第 4 款的规定。
☐权利要求 不符合专利法第 31 条第 1 款的规定。
☐权利要求 不符合专利法第 33 条的规定。
☐权利要求 不符合专利法实施细则第 2 条第 1 款关于发明的定义。
☐权利要求 不符合专利法实施细则第 13 条第 1 款的规定。
☒权利要求 12 不符合专利法实施细则第 20 条的规定。
☐权利要求 不符合专利法实施细则第 21 条的规定。
☐权利要求 不符合专利法实施细则第 22 条的规定。
☐权利要求 不符合专利法实施细则第 23 条的规定。
☐

上述结论性意见的具体分析见本通知书的正文部分。

7. 基于上述结论性意见, 审查员认为:

- ☐申请人应根据通知书正文部分提出的要求, 对申请文件进行修改。
☒申请人应在意见陈述书中论述其专利申请可以被授予专利权的理由, 并对通知书正文部分中指出的不符合规定之处进行修改, 否则将不能授予专利权。
☐专利申请中没有可以被授予专利权的实质性内容, 如果申请人没有陈述理由或者陈述理由不充分, 其申请将被撤回。
☐

8. 申请人应注意下述事项:

- (1) 根据专利法第 37 条的规定, 申请人应在收到本通知书之日起的肆个月内陈述意见, 如果申请人无正当理由逾期不答复, 其申请将被视为撤回。
(2) 申请人对其申请的修改应符合专利法第 33 条的规定, 修改文本应一式两份, 其格式应符合审查指南的有关规定。
(3) 申请人的意见陈述书和/或修改文本应邮寄或递交国家知识产权局专利局受理处, 凡未邮寄或递交给受理处的文件不具备法律效力。
(4) 未经预约, 申请人和/或代理人不得前来国家知识产权局专利局与审查员举行会晤。

9. 本通知书正文部分共有 5 页, 并附有下列附件:

- ☒引用的对比文件的复印件共 1 份 28 页。 ☐

审查员: 韩

2005 年 7 月 5 日



审查部门 审查协作中心

21301
2002.8



回函请寄: 100088 北京市海淀区蓟门桥西土城路 6 号 国家知识产权局专利局受理处收
(注: 凡寄给审查员个人的信函不具有法律效力)

第一次审查意见通知书正文

申请号：200410035237X

该申请涉及一种电子节目杂志。审查意见如下：

一、权利要求1不符合专利法第二十二条第三款创造性的有关规定。权利要求1所要保护的是“一种通过媒体提供电子节目杂志的方法”，对比文件1公开了一种互动式电视节目指南系统及其方法，其进一步披露了在以网络为基础的视频系统中提供了一种可搜索的电子节目指南，其接收节目指南和搜索列表，并在观众界面上显示上述节目指南和搜索列表，然后观众可以通过选择系统给定的关键字或者是输入关键字来通过搜索列表对节目进行搜索，最后在众界面上显示搜索结果（说明书第4页第3行-第7页第12行，附图1-8），由此对比文件1中公开了一种通过在搜索引擎中输入关键字来搜索电视节目的方法和系统，其与权利要求1所要保护的技术方案的区别在于：权利要求1中限定“搜索结果是多个超链接的网页”，在现有技术的搜索引擎中，google提供了一一种通过关键词的检索，来显示超链接网页的方法，这对于本领域的技术人员来说是公知的，因此在通过关键词检索后在观众界面上无论是显示文本文件还是超文本文件对于本领域的技术人员来说都是显而易见的，因而，权利要求1所要保护的方案相对于对比文件1不具有突出的实质性特点和显著的进步，不符合专利法第二十二条第三款创造性的规定。

二、权利要求2不符合专利法第二十二条第三款创造性的有关规定。对比文件1中已经披露了系统提供了进行搜索的搜索引擎以及搜索列表，对于本领域的技术人员来说，使用html语言来编写上述列表中的内容是惯用的技术手段，并且选择何种内容来进行超链接是主观的且非技术性的，由此本领域的技术人员可以选择将搜索引擎的网址链接到搜索列表中，这对于本领域的技术人员来说是显而易见的，因此在其引用的权利要求不具有创造性的情况下，上述权利要求所要保护的技术方案相对于对比文件1不具有突出的实质性特点和显著的进步，不符合专利法第二十二条第三款创造性的规定。

三、权利要求3和4不符合专利法第二十二条第三款创造性的有关规定。对比文件1

中已经披露了系统提供了进行搜索的搜索引擎以及搜索列表，并且面向用户的友好界面使得用户可以在界面中添加自己喜好的内容，这对于本领域的技术人员来说是公知的，而至于用户需要添加网址还是文本完全是主观的且非技术性的，也就是说使得用户可以在界面上添加搜索引擎对于本领域的技术人员来说是显而易见的，因此在其引用的权利要求不具有创造性的情况下，上述权利要求所要保护的技术方案相对于对比文件1不具有突出的实质性特点和显著的进步，不符合专利法第二十二条第三款创造性的规定。

四、权利要求5不符合专利法第二十二条第三款创造性的有关规定。对比文件1中已经披露了观众可以通过选择系统给定的关键字或者是输入关键字来通过搜索列表对节目进行搜索（说明书第4页第3行-第7页第12行，附图1-8），由此权利要求的附加技术特征已被对比文件1所披露，因此在其引用的权利要求不具有创造性的情况下，上述权利要求所要保护的技术方案相对于对比文件1不具有突出的实质性特点和显著的进步，不符合专利法第二十二条第三款创造性的规定。

五、权利要求6不符合专利法第二十二条第三款创造性的有关规定。在现有技术的搜索引擎中，google提供了一种通过关键词的检索，来显示超链接网页的方法，这对于本领域的技术人员来说是公知的，因此在通过关键词检索后用户可以选择访问喜好的网页，因此在其引用的权利要求不具有创造性的情况下，上述权利要求所要保护的技术方案相对于对比文件1不具有突出的实质性特点和显著的进步，不符合专利法第二十二条第三款创造性的规定。

六、权利要求7不符合专利法第二十二条第三款创造性的有关规定。对比文件1给出了用户界面可以显示搜索引擎、列表以及搜索结果，对于本领域的技术人员来说，设置上述内容的显示属性使其同时或者分别在用户界面上进行显示是显而易见的，因此在其引用的权利要求不具有创造性的情况下，上述权利要求所要保护的技术方案相对于对比文件1不具有突出的实质性特点和显著的进步，不符合专利法第二十二条第三款创造性的规定。

七、权利要求8不符合专利法第二十二条第三款创造性的有关规定。对比文件1中已经披露了根据搜索引擎及其关键字来显示搜索结果（说明书第4页第3行-第7页第12行，附图1-8），由此权利要求的附加技术特征已被对比文件1所披露，因此在其引用的权利要求不具有创造性的情况下，上述权利要求所要保护的技术方案相对于对比文件1不具有突出的实质性特点和显著的进步，不符合专利法第二十二条第三款创造性的规定。

八、权利要求9不符合专利法第二十二条第三款创造性的有关规定。上述权利要求的附加技术特征限定了一种关键字的确定方法，具体是在媒体中还是在指南中进行选择完全是根据人的主观意愿决定的，其并非技术特征，因此在其引用的权利要求不具有创造性的情况下，上述权利要求所要保护的技术方案相对于对比文件1不具有突出的实质性特点和显著的进步，不符合专利法第二十二条第三款创造性的规定。

九、权利要求10不符合专利法第二十二条第三款创造性的有关规定。对比文件1中已经披露了该视频装置可以对网络进行访问（说明书第4页第3行-第7页第12行，附图1-8），且对于本领域的技术人员来说，使用数字电视来接收ATSC信号是公知的，因此在其引用的权利要求不具有创造性的情况下，上述权利要求所要保护的技术方案相对于对比文件1不具有突出的实质性特点和显著的进步，不符合专利法第二十二条第三款创造性的规定。

十、权利要求11不符合专利法第二十二条第三款创造性的有关规定。对比文件1中已经披露了其接收节目指南和搜索列表，并在观众界面上显示上述节目指南和搜索列表（说明书第4页第3行-第7页第12行，附图1-8），由此权利要求的附加技术特征已被对比文件1所披露，因此在其引用的权利要求不具有创造性的情况下，上述权利要求所要保护的技术方案相对于对比文件1不具有突出的实质性特点和显著的进步，不符合专利法第二十二条第三款创造性的规定。

十一、权利要求12所保护的技术方案不清楚，不符合专利法实施细则第二十条第一款有关清楚的规定。权利要求中限定“电子杂志节目功能.....”，本领域的技术人

不能清楚的理解上述“电子杂志节目功能”是怎样一种功能，其又是如何执行“检查”的？上述权利要求中的限定范围和含义不清楚，因此，权利要求所保护的技术方案不清楚，不符合专利法实施细则第二十条第一款有关清楚的规定。

十二、权利要求13不符合专利法第二十二条第三款创造性的有关规定。对比文件1中已经披露了其接收节目指南和搜索列表，并在观众界面上显示上述节目指南和搜索列表（说明书第4页第3行-第7页第12行，附图1-8），而对于本领域的技术人员来说将重复的内容进行删除是一种公知的技术手段，因此在其引用的权利要求不具有创造性的情况下，上述权利要求所要保护的技术方案相对于对比文件1不具有突出的实质性特点和显著的进步，不符合专利法第二十二条第三款创造性的规定。

十三、权利要求14不符合专利法第二十二条第三款创造性的有关规定。对比文件1中已经披露了系统提供了进行搜索的搜索引擎以及搜索列表，对于本领域的技术人员来说，使用html语言来编写上述列表中的内容是惯用的技术手段，并且选择何种内容来进行超链接是主观的且非技术性的，由此本领域的技术人员可以选择将搜索引擎的网址链接到搜索列表中并将其设置为默认，这对于本领域的技术人员来说是显而易见的，因此在其引用的权利要求不具有创造性的情况下，上述权利要求所要保护的技术方案相对于对比文件1不具有突出的实质性特点和显著的进步，不符合专利法第二十二条第三款创造性的规定。

十四、权利要求15不符合专利法第二十二条第三款创造性的有关规定。对比文件1中已经披露了系统提供了进行搜索的搜索引擎以及搜索列表，并且面向用户的友好界面使得用户可以在界面中添加自己喜好的内容，这对于本领域的技术人员来说是公知的，而至于用户需要添加网址还是文本完全是主观的且非技术性的，也就是说使得用户可以在界面上添加搜索引擎并将其设置为默认对于本领域的技术人员来说是显而易见的，因此在其引用的权利要求不具有创造性的情况下，上述权利要求所要保护的技术方案相对于对比文件1不具有突出的实质性特点和显著的进步，不符合专利法第二十二条第三款创造性的规定。

基于上述理由，本申请按照目前文本是不能被授予专利权的。申请人应根据上述审查意见在指定的四个月答复期限内提交新修改的权利要求书和说明书。修改文本应符合专利法第三十三条的规定，不得超出原说明书和权利要求书的记载范围。

审查员：韩岳

代码：9515

The Patent office of the People's Republic Of China

Address: No. 6 XITUCHENG ROAD, JIMEN BRIDGE, HAIDIAN DISTRICT, BEIJING

Post Code: 100088

Applicant: <u>SAMSUNG ELECTRONICS -</u>	ISSUING DATE:
Agent: <u>Xiao Lin Jia</u>	<u>2005.07.28</u>
Application No.: <u>200410035237X</u>	
Title: <u>ELECTRONIC PROGRAM MAGAZINE</u>	

THE FIRST OFFICE ACTION

- ☒ The applicant filed a request for substantive examination on Year ____ Month ____ Day ____ according to Article 35 Paragraph 1 of the Patent Law. The examiner has conducted a substantive examination to the above-mentioned patent application.

☐ According to Article 35 paragraph 2 of the Patent Law. Chinese Patent office decided on its own initiative to conduct a substantive examination to the above-mentioned patent application.
- ☒ The applicant requested to take

 Year 23 Month 01 Day 30 on which an application is filed with the EP patent office as the priority date.

 Year ____ Month ____ Day ____ on which an application is filed with the ____ patent office as the priority date.

 Year ____ Month ____ Day ____ on which an application is filed with the ____ patent office as the priority date.

☒ The applicant has submitted the copy of the earliest application document certified by the competent authority of that country.

☐ According to Article 30 of the Patent Law, if the applicant has not yet submitted the copy of the earliest application document certified by the competent authority of that country, the declaration for Priority shall be deemed not to have been made.

☐ This application is a PCT application.
- ☐ The applicant submitted the amended document(s) on Year ____ Month ____ Day ____ and Year ____ Month ____ Day ____ after examination, ____ submitted on Year ____ Month ____ Day ____ is/are not accepted.

 ____ submitted on Year ____ Month ____ Day ____ is/are not accepted

 because the said amendment(s) ☐ is/are not in conformity with Article 33 of the Patent Law.

☐ is/are not in conformity with Rule 51 of the Implementing Regulations.

☐ The concrete reason(s) for not accepting the amendment(s) is/are presented on the text of Office Action.
- ☒ The examination has been conducted based on the application text as originally filed.

☐ The examination has been conducted based on the following text(s):

 page(s) ____ of the specification, Claim(s) ____, and figure(s) ____ in the original text of the application submitted on the filing day.

 page(s) ____ of the specification, claim(s) ____, and figure(s) ____ submitted on Year ____ Month ____ Day ____

 page(s) ____ of the specification, claim(s) ____, and figure(s) ____ submitted on Year ____ Month ____ Day ____
- ☐ This notification was made without undergoing search.

☒ This notification was made with undergoing search.

☒ The following reference document(s) is/are cited:(the reference numeral(s) thereof will be used in the examination procedure hereafter)

NO.	Reference No. or Title	Publishing Date
1	<u>WO/0147238 A2</u>	<u>2001.06.28</u>
2		
3		
4		
5		

6. Concluding comments

☐ on the specification:

- ☐ The contents of the application are in contrary to Article 5 of the Patent Law and therefore are not patentable.
- ☐ The contents of the application do not possess the practical applicability as prescribed in Paragraph 4 of Article 5 of the Patent Law.
- ☐ The specification is not in conformity with the provision of Paragraph 3 of Article 26 of the Patent Law.
- ☐ The presentation of the specification is not in conformity with the provision of Rule 18 of the Implementing Regulations.

☒ on the claims:

- ☐ Claim(s) _____ belong(s) to non-patentable subject matter as prescribed in Article 25 of the Patent law.
- ☐ Claim(s) _____ do(es) not comply with the definition of a patent as provided in Rule 2 paragraph 1 of the Implementing Regulations.
- ☐ Claim(s) _____ do(es) not possess novelty as requested by Article 22 paragraph 2 of the Patent Law.
- ☒ Claim(s) 1-11, 13-15 do(es) not possess inventiveness as requested by Article 22 paragraph 3 of the Patent Law.
- ☐ Claim(s) _____ do(es) not possess practical applicability as requested by Article 22 paragraph 4 of the Patent Law.
- ☐ Claim(s) _____ do(es) not comply with the provision of Article 26 paragraph 4 of the Patent Law.
- ☐ Claim(s) _____ do(es) not comply with the provision of Article 31 paragraph 1 of the Patent Law.
- ☒ Claim(s) 12 do(es) not comply with provision of Rule 20 of the Implementing Regulations.
- ☐ Claim(s) _____ do(es) not comply with provision of Rule 21 of the Implementing Regulations.
- ☐ Claim(s) _____ do(es) not comply with provision of Rule 22 of the Implementing Regulations.
- ☐ Claim(s) _____ do(es) not comply with provision of Rule 23 of the Implementing Regulations.
- ☐ Claim(s) _____ do(es) not comply with the provision of Article 9 of the Patent Law.
- ☐ Claim(s) _____ do(es) not comply with the provision of Rule 13 paragraph 1 of the Implementing Regulations.

The detailed analysis for the above concluding comments is presented on the text of this Office Action.

7. Based on the above concluding comments, the examiner is of the opinion that

- ☐ The applicant should amend the application document(s) in accordance with the requirement as specified in the Office Action.
- ☒ The applicant should, in his observation, expound the patentability of the application of the application, amend the defects pointed out in the Office Action; or the application can hardly be approved.
- ☐ The examiner deems that the application lacks substantive features to make it patentable. Therefore, the application will be rejected if no convincing reasons are provided to prove its patentability.

8. The applicant should pay attention to the following matters:

- (1) According to Article 37 of the Patent Law, the applicant is required to submit his observations within Four months upon receipt of this Office Action. If the time limit for making response is not met without any justified reason, the application to have been withdraw.
- (2) The amendment(s) made by the applicant must meet the requirements of Article 33 of the Patent Law. The amended text should be in duplicate, its format should conform to the related confinement in the Guidance for Examination.
- (3) The applicant and/or the agent should not go to the Chinese Patent Office to interview the examiner without being invited.
- (4) The observation and/of the amended document(s) must be mailed or delivered to the Receiving Section of the Chinese Patent Office. No legal effect shall apply for any document(s) that not mailed to or reached the Receiving Section.

9. The text of this Office Action contains 5 page(s), and has the following attachment(s):

☒ 1 copies of the cited references, all together 28 pages.

Examination Dept. No. _____ Examiner _____ Seal of Examination Dept. for business only _____

(if the Office Action wasn't stamped by the specified seal, it has no legal effect)

TEXT OF THE FIRST OFFICE ACTION

Application No.: 200410035237X

The present application relates to an electronic program magazine. The examination opinions are provided as follows:

1. Claim 1 does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law. Claim 1 seeks to protect "a method of providing an electronic program magazine through a medium". Reference 1 has disclosed an interactive television program guide system and method, and further disclosed that a searchable program guide is provided in a network-based video system, wherein the system receives the program guide and a search list and displays said program guide and said search list on a viewer interface; and then by selecting keywords provided by the system or inputting keywords, the viewer can search a program by said search list; and finally the search results are displayed on a viewer interface (refer to line 3, page 4 to line 12, page 7 of the specification; and Figs. 1-8), and thus Reference 1 has disclosed a method and system for searching a television program by inputting keywords into a search engine. The difference between Reference 1 and the technical solution sought for protection in claim 1 in that: claim 1 defines "the search results are a plurality of hyperlinked web pages". But it is the common knowledge for those skilled in the art that: in the search engines of the prior art, Google has provided a method of displaying hyperlinked web pages by searching keywords. Therefore, after the search of keywords, what is displayed on the viewer interface is obvious for those skilled in the art regardless of whether it is a text file or a hypertext file. Therefore, the technical solution sought for protection in claim 1 does not possess prominent substantive feature or notable progress in comparison with Reference 1, which does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law.

2. Claim 2 does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law. Reference 1 has disclosed that the system provides a search engine and a search list for search, it is the habitual technical means for those skilled in the art to write the contents of the above list by using the HTML language, and which type of contents is selected for hyperlink is determined subjectively and un-technically. Therefore, those skilled in the art may select to link the web address of the search engine to the search list, and this is obvious for those skilled in the art. Therefore, as the claim to which claim 2 refers does not possess inventiveness, the technical solution sought for protection in the above claim does not possess prominent substantive feature or notable progress in comparison with Reference 1, and thus does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law.

3. Claims 3 and 4 do not comply with the relevant provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law. Reference 1 has disclosed that the system provides a search engine and a search list for search, and it is the common knowledge for those skilled in the art that a user-friendly interface enables the user to add his favour contents into the interface, but as to whether the user wants to add a web address or a text, it is totally subjective and untechnical. In other words, it is obvious for those skilled in the art to enable an user to add a search engine into the interface. Therefore, as the claims to which said claims refer do not possess inventiveness, the technical solutions sought for protection in the above claims do not possess prominent substantive feature or notable progress in comparison with Reference 1, and thus do not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law.

4. Claim 5 does not comply with the relevant provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law. Reference 1 has disclosed that by selecting keywords provided by the system or inputting keywords, the viewer may search the programs by a search list (refer to line 3, page 4 to line 12, page 7 of the specification; and Figs. 1-8). Therefore, the additional technical feature of said claim has been disclosed in Reference 1. As the claim to which claim 5 refers does not possess inventiveness, the technical solution sought for protection in said claim does not possess prominent substantive feature or notable progress in comparison with Reference 1, and thus does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law.

5. Claim 6 does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law. It is the common knowledge for those skilled in the art that: in the search engines of the prior art, Google has provided a method of displaying hyperlinked web pages by searching keywords. Therefore, after the search of keywords, the user may select to access his favour web page. As the claim to which claim 6 refers does not possess inventiveness, the technical solution sought for protection in said claim does not possess prominent substantive feature or notable progress in comparison with Reference 1, and thus does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law.

6. Claim 7 does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law. Reference 1 has disclosed that the user interface may display search engines, lists and search results. And it is obvious for those skilled in the art to set the display attributes of the above contents so as to enable said contents to be displayed on the user interface simultaneously or respectively. Therefore, as the claim to which claim 7 refers does not possess inventiveness, the technical solution sought for protection in said claim does not possess prominent substantive feature or notable progress in comparison with Reference 1, and thus does not comply with the provision on inventiveness as

prescribed in Article 22, paragraph 3 of the Chinese Patent Law.

7. Claim 8 does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law. Reference 1 has disclosed that the search results are displayed based on the search engine and the keywords thereof (refer to line 3, page 4 to line 12, page 7 of the specification; and Figs. 1-8). Therefore, the additional technical feature of said claim has been disclosed in Reference 1. As the claim to which said claim refers does not possess inventiveness, the technical solution sought for protection in said claim does not possess prominent substantive feature or notable progress in comparison with Reference 1, and thus does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law.

8. Claim 9 does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law. The additional technical feature of said claim defines a method of determining a keyword. As to whether the selection is performed in a medium or in a guide in detail, it is totally determined based on man's subjective will, and is not a technical feature. Therefore, as the claim to which said claim refers does not possess inventiveness, the technical solution sought for protection in said claim does not possess prominent substantive feature or notable progress in comparison with Reference 1, and thus does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law.

9. Claim 10 does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law. Reference 1 has disclosed that the video device may access network (refer to line 3, page 4 to line 12, page 7 of the specification; and Figs. 1-8), and it is the common knowledge for those skilled in the art to use a digital television to receive ATSC signals. Therefore, as the claim to which said claim does not possess inventiveness, the technical solution sought for protection in said claim does not possess prominent substantive feature or notable progress in comparison with Reference 1, and thus does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law.

10. Claim 11 does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law. Reference 1 has disclosed that a program guide and a search list are received, and the program guide and the search list are displayed on a viewer interface (refer to line 3, page 4 to line 12, page 7 of the specification; Figs. 1-8). Therefore, the additional technical feature of said claim has been disclosed in Reference 1. as the claim to which said claim refers does not possess inventiveness, the technical solution sought for protection in said claim does not possess prominent substantive feature or notable progress in comparison with Reference 1, and thus does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law.

11. The technical solution sought for protection in claim 12 is unclear, which does not comply with the provision on being clear as prescribed in Rule 20, paragraph 1 of the Implementing Regulations of the Chinese Patent Law. Said claim defines "an electronic magazine program function...", but those skilled in the art cannot clearly understand which function said "electronic magazine program function" is and how "the checking" is performed. The protection scope and said claim is unclear. Therefore, the technical solution sought for protection in said claim is unclear, which does not comply with the provision on being clear as prescribed in Rule 20, paragraph 1 of the Implementing Regulations of the Chinese Patent Law.

12. Claim 13 does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law. Reference 1 has disclosed that a program guide and a search list are received, and the program guide and the search list are displayed on a viewer interface (refer to line 3, page 4 to line 12, page 7 of the specification, and Figs. 1-8). Furthermore, it is the common technical means for those skilled in the art to delete the duplicative content. Therefore, as the claim to which said claim refers does not possess inventiveness, the technical solution sought for protection in said claim does not possess prominent substantive feature or notable progress in comparison with Reference 1, and thus does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law.

13. Claim 14 does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law. Reference 1 has disclosed that the system provides a search engine and a search list for search. And for those skilled in the art, it is the habitual technical means to writhe the contents in the above list by using the HTML language, and which type of content is selected for hyperlink is determined subjectively and un-technically. Therefore, those skilled in the art may select to link the web address of the search engine to the search list and set the engine as a default engine, and this is obvious for those skilled in the art. Accordingly, as the claim to which said claim refers does not possess inventiveness, the technical solution sought for protection in said claim does not possess prominent substantive feature or notable progress in comparison with Reference 1, and thus does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law.

14. Claim 15 does not comply with the provision on inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law. Reference 1 has disclosed that the system provides a search engine and a search list for search, and it is the common knowledge for those skilled in the art that a user-friendly interface enables the user to add his favour content into the interface. As to whether the user wants to add a web address or a text, it is totally subjective and untechnical, in other words, it is obvious for those skilled in the art to enable a user to add a search engine into the interface and

to set the engine as a default engine. Therefore, as the claim to which said claim refers does not possess inventiveness, the technical solution sought for protection in said claim does not possess prominent substantive feature or notable progress in comparison with Reference 1, and thus does not possess inventiveness as prescribed in Article 22, paragraph 3 of the Chinese Patent Law.

Due to the above reasons, the application cannot be granted a patent right under the present text. The applicant shall, within four-month response time limit, submit the anew amended claims and specification in accordance with the above examination opinions. The amended text shall not go beyond the scope of the original specification and claims, so as to comply with the provision of Article 33 of the Chinese Patent Law.

Examiner: Han Yue

JXH

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- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*



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(54) Title: **DISTRIBUTED, INTERACTIVE TELEVISION PROGRAM GUIDE; SYSTEM AND METHOD**

(57) Abstract: In an interactive network-based personal video recording system, a user interface is provided that allows viewers to search a database of program guide information according to program title, indexed program attributes such as actor and director, and key word. Viewer interaction is by way of a remote control unit.

DISTRIBUTED, INTERACTIVE TELEVISION PROGRAM GUIDE; SYSTEM AND METHOD

BACKGROUND OF THE INVENTION

5

FIELD OF THE INVENTION

The invention relates generally to a network-based video recording system. More particularly, the invention relates to a method and apparatus for searching a client-side database of program guide information to identify
10 program items of interest.

DESCRIPTION OF RELATED ART

The number of programming options available to television viewers is constantly increasing, with television programming now available from the
15 major networks, cable channels, satellite, pay-per-view, community access television, and so on. Paralleling this growing availability of television programming is a decrease in the amount of leisure time viewers have for watching television; due to job demands, time spent commuting, family responsibilities and the like. Because of these severe schedule constraints,
20 the complaint is pervasive among viewers that "There's nothing on" when they do have time for television viewing, in spite of the unprecedented availability of television entertainment. This complaint is more a result of the difficulty of matching one's own schedule to network television schedules than it is due to quality or availability of television programming. The ability
25 provided by VCR's and other recording devices to make automatic, unattended recordings of television programs has freed viewers from the dictates of network scheduling.

However, the viewer is still faced with the time-consuming chore of
30 examining schedules for literally hundreds of television channels to identify programs of interest. As a result, electronic program guides have been developed to help viewers deal with the mass of programming information.

Typically, such guides are provided in cable and satellite television environments. The program information is presented in a grid format, organized by time slot and channel. The guide is displayed by scrolling across the screen. However, these guides are not interactive; they cannot be searched, nor can the viewer control the display of information in any way. The viewer must simply passively watch the information scroll by, hoping that something useful or interesting will pass by.

Searchable program guides are now available. For example, S. Schein, J. Leftwich, *Method and apparatus for searching a guide using program characteristics*, U.S. Patent No. 6,133,909 (October 17, 2000) describe a searchable program guide that allows a viewer to search according to program attributes such as actors or directors. The guide described by Schein, *et al.* eases the viewer's task of locating programs of interest. Unfortunately, the described guide only allows the user to search the guide according to indexed attributes, such as actor or director. However, indexed attributes often fail to anticipate a user's search behavior. Thus, Schein, *et al.* do not provide the user with any way to search outside of those indexed attributes.

From the foregoing, it is apparent that an interactive program guide that affords the viewer more flexible search options would be a significant technological advance.

SUMMARY OF THE INVENTION

The invention provides a method and apparatus for searching a database of program information in an interactive, network-based video recording system, in order to identify programs of interest. A viewer enters search terms using a virtual alphanumeric keypad displayed in a viewer interface by means of a remote control. The viewer may search according to program title, indexed attributes such as category, actor, and director; or a key word

search allows the viewer to search by program content or subject matter. A prefix matching capability provides a type-ahead feature, so that search terms may be rapidly located in the appropriate index simply by entering one or more of the leading characters of the search term.

5

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows a block diagram of an interactive, network-based video recording system, according to the invention;

10

Figure 2 shows a top-level screen of a viewer interface for searching an interactive program guide, according to the invention;

Figure 3 shows a screen from the viewer interface of Figure 2 for searching by title, according to the invention;

15

Figure 4 shows an alphanumeric keypad for searching by title, according to the invention;

20

Figure 5 shows an alphanumeric keypad for searching by actor name, according to the invention;

Figure 6 shows a category list for narrowing an actor name search, according to the invention;

25

Figure 7 shows an alphanumeric keypad for searching by keyword, according to the invention; and

Figure 8 shows a category list for narrowing a keyword search, according to the invention.

30

DETAILED DESCRIPTION

In an interactive, network-based video recording system, a searchable program guide is provided to facilitate the task of identifying programs of interest by the viewer. As shown in Figure 1, a viewer interface 1 to a client unit 3 provides a series of interactive screens that incorporate interface elements such as text boxes, searchable lists, selection bars, and alphanumeric keypads. The viewer navigates the interface and generally interacts with the system by means of a hand-held remote control 4 that communicates with the client unit by means of a data signal 5. In the preferred embodiment, the data signal is embedded in an IR carrier signal, but other carrier signals known to those skilled in the art of wireless data transfer would also be suitable. Typically, the interface is displayed on the screen of a television set 2 connected to the client unit. However, other display means would also be suitable. The client unit is in periodic contact 6 (the arrows denoting the network connection are dashed to indicate the intermittent nature of the connection) with a server 7, during which time, current program information, originating from a vendor, is downloaded to the client unit. After downloading, the program information is imported into a database application resident on a fixed storage medium such as a disk drive. The current embodiment of the invention employs an object-oriented database application, but other types of database applications, such as relational databases, would also be suitable.

Referring now to Figure 2, shown is a top-level screen 20 to the search interface. A selection bar 21 highlights the various search options available. The first option 22, allows the viewer to search the program guide according to program title. A second option 23, allows the user to create search profiles that search according to actor name, director name, category and key word. In addition, other search options are possible. For example, expanded search functionality may include indices for year of release, language, choreographer, or any other program attribute that could be indexed. Navigating arrows 24 advise the viewer of the navigation options

available. For example, in Figure 2, a 'right' arrow 24a navigates the viewer to a screen (Figure 3) for searching by title; a 'down' arrow 24b allows the viewer to scroll through the list of provided options; and a 'left' arrow 24c navigates the viewer back to the previous screen. If the selection bar were
5 positioned farther down in the list of options, an 'up' arrow (not shown) would permit the viewer to scroll up the list. The 'up,' 'down,' 'right' and 'left' arrows are operated by pressing corresponding buttons on the handheld remote control 4. In the example of Figure 2, the viewer selects 'Search by title' 22.

10 Referring now to Figure 3, a screen 30 is shown that gives the viewer the option of narrowing a title search according to program category, or not, according to the viewer's need or desire. By selecting the 'all programs' option, the search is performed in the entire program database. Selecting a category 32, limits the search to programs defined by the corresponding
15 category descriptor. Limiting a search by category would be most useful when the viewer is browsing for a program of particular type. If the viewer desired to maximize retrieval, or if they were searching for a specific program for which they knew at least a portion of the title, limiting by program category might be less useful.

20

After choosing a category, the user is navigated to a screen as shown in Figure 4. Shown is a screen 40 displaying a virtual alphanumeric keyboard 41 and a text box 44. The viewer uses the navigation controls (not shown) on the remote control to position a selection marquee 48 around the character
25 of choice. When the selection marquee is properly positioned at the desired character, the viewer presses a 'select' button, upon which the selected character appears in the text box 44. The viewer continues selecting characters, until they have entered at least a portion of the program title in the text box. 'Clear,' 'space' and 'delete' functions 45, 46 and 47,
30 respectively, are provided for clearing the box, inserting a space between words, and deleting single characters. Prefix matching gives the screen a type-ahead capability. Thus, as the viewer enters characters, the title list 42 automatically scrolls to the program items having prefixes that match the

character string entered by the viewer. As described previously, the directional arrows 24a - d advise the user of the navigation options available to them. As shown in Figure 4, the selection marquee is positioned around the character 'T' in the rightmost column of the keypad 41. In this case, navigating to the right would cause focus to shift from the keypad to the title list 42. 'Up' and 'down' arrows 43a and b indicate that the viewer may scroll up or down in the title list.

As described above, the viewer may create search profiles in which they search according to indexed program attributes or keywords. Program attributes may include actor name, director name, category, choreographer, language, year of release, and the like. Figure 5 shows a screen for searching according to actor name. It should be noted that searching according to indexed attributes or key word requires the creation of a search profile. When the search profile is created, it may be saved and named. Interaction with the search screen 50 is analogous to that previously described for the title entry screen, thus it will not be further described. As Figure 6 shows, following entry of an actor name, a screen 60 allows the user to narrow a search according to category, if desired. Another set of screens (not shown) is provided for searching according to director name. Their appearance and function is analogous to those for searching according to actor name, thus they will not be further described.

Figures 7 and 8 show screens 70 and 80 for searching according to key word and narrowing according to category, respectively. As previously described, keyword searching requires the creation of a search profile. As will be described below, key words are extracted from actor and director names, titles and a narrative program description.

The key word search feature is highly advantageous in that it provides an important additional access point not found in conventional program guides. It is a well-known problem to those skilled in the design of publicly accessible information retrieval systems that it is impossible to anticipate a

user's search behavior with complete certainty. Thus, no matter how skillfully indexed an information base may be, it will be unable to accommodate the information-seeking behavior of all users. Therefore, to provide a system that delivers maximum serviceability to its constituency, it is highly desirable to provide as many different access points as possible. By including a key word search feature, the current invention provides an important, highly flexible means of accessing program content and subject matter outside of the indexed attributes.

10 The method of interacting with the key word search screens is exactly analogous to the screens previously described. Thus, they will not be further described.

15 INDEXING

As previously noted, the video recording system of the present invention is network-based, consisting of a central server, and a plurality of client units, each client being in periodic communication with the server. In the preferred embodiment of the invention, the network connection is a dial-up connection over a publicly available telecommunication network. However, other network connections, a wireless connection, for example, would be equally suitable. In the preferred embodiment of the invention, the client is in communication with the server for a brief period on a daily basis. During the daily connection period, the client downloads current program guide data.

25 The downloaded program information is imported into an object-oriented database resident on the client. As previously indicated, when a viewer searches the database to find programs of interest, they may search by program name, by indexed attributes such as actor name or director name; and by keyword. A direct, sequential search of the records in the database objects would be prohibitively time-consuming and would waste system resources, unfavorably affecting the usability of the program guide. Thus, the database is indexed, and searches are conducted on the provided index files, greatly improving search efficiency.

- While the database may include other objects, the title search feature is concerned primarily with the 'Series' object. The attribute search and key word search features are concerned primarily with the 'Program' object. The
- 5 'Series' object includes a record for each television series. For the title search, the most important field of the 'Series' object is the series 'Title' field. The attribute search and the key word search are concerned primarily with the 'Program' object. The 'Program' object includes a record for each individual program item, where an individual program item might be a single
- 10 episode of a series, for example. The 'Program' object includes at least the following fields:
- Title;
 - Episode title;
 - Description;
 - 15 • Actors
 - Hosts;
 - Guest stars; and
 - Directors.
- 20 The above list is not intended to be limiting. Other record configurations consistent with the spirit and scope of the invention are possible. Information is extracted from the individual records and assembled into a series of index files. For the title search feature, a 'Title' index is constructed. For the attribute search feature, 'Actor' and 'Director' indices are built. Finally, for the
- 25 key word search, a 'Key word' index and a 'Title word' index are provided.

Generally, the process of indexing the database includes the following steps:

- Extracting index terms from the database records;
- Constructing intermediate files from the extracted index terms;
- 30 • Creating raw, unsorted index files from the intermediate files;
- Sorting the raw index files; and
- Compressing the sorted files to form final index files.

The several steps of the indexing process are described in greater detail below.

- 5 For the 'Title' index, the entire series title is extracted as a text string from the 'Title' field of each 'Series' record, with each text string constituting a separate index term, or key.

- For the 'Actor' index, each name is extracted from the 'Actors,' 'Hosts' and
10 'Guest stars' fields of the 'Program' records, with each name from each record constituting a separate actor key. Similarly, for the 'Director' index, each name is extracted from the 'Directors' field, with each name from each record constituting a separate director key.

- 15 For the 'Title word' index, each separate word, having a length of at least two characters, of each title from both the 'Title' and 'Episode title' fields is extracted, with each separate word constituting a separate title word. For the 'Key word' index, each separate word having a length of at least two characters is extracted from the 'Description' field, with each occurrence of
20 each word constituting a separate key word.

- Following key extraction, the keys are assembled into intermediate files: one for each of 'Title,' 'Actor,' 'Director,' 'Title word' and 'Key word'. The 'Title' intermediate file includes the 'Title' keys, the 'Actor' intermediate file includes
25 the 'Actor,' 'Host' and 'Guest star' keys, and the 'Director' intermediate file includes the 'Director' keys, with the names in the 'Actor' and 'Director' keys listed directory style: last name and first name, separated by a comma. The 'Title word' file includes the title words extracted from the 'Title' and 'Episode title' fields of the 'Program' object. The 'Key word' file, however, is
30 constructed differently from the previous intermediate files. Each key word forms a separate entry in the 'Key word' file. Additionally, actor names are incorporated into the 'Key word' index. The actor names are parsed into separate first and last names, and then added to the 'Key word' intermediate

file. Thus the 'Key word' file includes the words from the, 'Description' field and the name words from the 'Actors,' 'Hosts' and 'Guest stars' fields. The end result of this step is an intermediate file for each of 'Title,' 'Actor,' 'Director,' 'Title word' and 'Key word,' each comprising a simple listing of the
5 respective keys or index terms, in a text file.

The intermediate files are subsequently used to build raw, unsorted index files. Each key of the intermediate files described above is paired with a program identifier that corresponds to the record that the key originated from.
10 The program identifier is a system-generated, alphanumeric identifier, distinct from the program identifiers assigned by commercial programming information vendors such as TRIBUNE MEDIA SERVICES. The raw index files take the form of delimited text files; however other data structures, such as tables, would be equally suitable. In the preferred embodiment of the
15 invention, the files are formatted as follows:

<KEY> <TAB> <PROG ID>

20

<KEY> <TAB> <PROG ID>.

25

As will be described further below, a binary search algorithm is employed to search the indices, requiring that the index be sorted. Thus, the raw index files are sorted on the keys.

30 The sorted index files are subsequently compressed by eliminating redundant keys, so that each distinct key is paired with a list of the program identifiers corresponding to each occurrence of the key in the database. In the preferred embodiment of the invention, the compressed index files are also delimited text files, formatted as follows:

35

CAT	<TAB> <'D ₁ , ID ₂ , ..., ID _N >
LASER	<TAB> <ID ₁ , ID ₂ , ..., ID _N >
STAR	<TAB> <ID ₁ , ID ₂ , ..., ID _N >
TREK	<TAB> <ID ₁ , ID ₂ , ..., ID _N >

5

Where 'cat,' 'laser,' 'star' and 'trek' might be title words or key words and 'ID₁, ID₂, ..., ID_N' is a list of program identifiers for each unique key.

SEARCH ALGORITHM

- 10 A search engine employing a binary search algorithm is used to search the various indices. In general, the binary algorithm begins with an interval covering the whole search space. The search space is repeatedly divided in half according to how the search value compares with the middle element. If the search value is less than the item in the middle of the interval, the interval
- 15 is narrowed to the lower half; otherwise it is narrowed to the other half. The operation is performed until the search value is found or the interval is empty.

- As described above, the key word search includes title words. Therefore,
- 20 during a key word search, a binary search of both the 'Keyword' index and the 'Title word' index is performed.

- Although the invention has been described herein with reference to certain preferred embodiments, one skilled in the art will readily appreciate that
- 25 other applications may be substituted without departing from the spirit and scope of the present invention. Accordingly, the invention should only be limited by the Claims included below.

CLAIMS

What is claimed is:

5

1. A system for searching a distributed, interactive television program guide database, wherein a viewer searches said database to identify programs of interest, said system comprising:

a server;

10

a client, wherein said client is in periodic communication with said server, and wherein said client downloads current program information from said server;

a program guide database resident on said client, wherein said program information is imported into said database;

15

an interactive viewer interface displayed on a display means in communication with said client;

means for interacting with said viewer interface by said viewer;

means for searching said database according to program title;

means for searching said database according to indexed program

20

attributes; and

means for searching said database according to key words.

2. The system of Claim 1, wherein said system is a component of an interactive, network-based video recording system.

25

3. The system of Claim 1, wherein said interface comprises a plurality of screens having interface elements for navigation, entering search values and displaying search results.

30

4. The system of Claim 3, wherein said means for interacting with said interface comprises a remote control unit, said remote control unit communicating with said client by means of a data signal.

5. The system of Claim 4, wherein said data signal is embedded in a carrier signal.

6. The system of Claim 4, wherein said means for searching said database according to program title comprises a screen for optionally selecting a program category.

7. The system of Claim 5, wherein said means for searching said database according to program title further comprises a screen for entering a program title and displaying a list of program titles, said screen for entering a program title comprising:

a virtual alphanumeric keypad for entering characters to spell said program title;

a text box for displaying said entered characters; and

15 a scrollable list of program titles, wherein a prefix matching feature causes said list of program titles to automatically scroll to titles in said list having prefixes that match a character string displayed in said text box.

8. The system of Claim 7, wherein said viewer enters characters by activating controls on said remote control that correspond to virtual controls on said keypad.

9. The system of Claim 4, wherein said means for searching said database according to indexed attributes comprises:

25 a screen for searching according to Actor name;

a screen for searching according to Director name; and

separate screens preceding said Actor name screen and said Director name screen for optionally selecting a program category.

30 10. The system of Claim 9, wherein said screen for searching according to Actor name comprises:

a virtual alphanumeric keypad for entering characters to spell said Actor name;

a text box for displaying said entered characters; and

a scrollable list of Actor names, wherein a prefix matching feature causes said list of Actor names to automatically scroll to Actor names in said list having prefixes that match a character string displayed in said text box.

5

11. The system of Claim 10, wherein said viewer enters characters by activating controls on said remote control that correspond to virtual controls on said keypad.

10 12. The system of Claim 9, wherein said screen for searching according to Director name comprises:

a virtual alphanumeric keypad for entering characters to spell said Director name;

a text box for displaying said entered characters; and

15 a scrollable list of Director names, wherein a prefix matching feature causes said list of Director names to automatically scroll to Director names in said list having prefixes that match a character string displayed in said text box.

20 13. The system of Claim 12, wherein said viewer enters characters by activating controls on said remote control that correspond to virtual controls on said keypad.

25 14. The system of Claim 4, wherein said means for searching said database according to key word comprises a screen for optionally selecting a program category.

30 15. The system of Claim 14, wherein said means for searching said database according to key word further comprises a screen for entering a key word, said screen for entering a key word comprising:

a virtual alphanumeric keypad for entering characters to spell said key word; and

a text box for displaying said entered characters.

16. The system of Claim 15, wherein said viewer enters characters by activating controls on said remote control that correspond to virtual controls on said keypad.
- 5
17. The system of Claim 4, wherein said indexed attributes include any of:
- Actor name;
- Director name;
- Host name;
- 10 Guest star name;
- Choreographer;
- Year of release;
- Category; and
- Language.
- 15
18. The system of Claim 1, wherein said program guide database comprises an object-oriented database application, said database application including at least:
- a 'Series' object; and
- 20 a 'Program' object.
19. The system of Claim 18, wherein said 'Series' object includes a series 'Title' field.
- 25
20. The system of Claim 19, wherein said program guide database further comprises a 'Title' index, said 'Title' index being built from entries in said 'Series' title field.
21. The system of Claim 20, wherein said means for searching said
- 30 database according to program title comprises a search engine for searching said 'Title' index.

22. The system of Claim 18, wherein said 'Program' object includes fields for:

Title;
Episode title;
Description;
Actors
Hosts;
Guest stars; and
Directors.

23. The system of Claim 22, wherein said database further comprises an 'Actor' index, said 'Actor' index being built from entries in said 'Actors,' 'Hosts,' and 'Guest stars' fields.

24. The system of Claim 23, wherein said database further comprises a 'Director' index, said Director' index being built from entries in said 'Director' field.

25. The system of Claim 24, wherein said means for searching said database according to program attributes comprises a search engine for searching said 'Actor' and said 'Director' indices.

26. The system of Claim 18, wherein said database further comprises a 'Title word' index, said 'Title word' index being built from said 'Title' fields and said 'Episode title' fields.

27. The system of Claim 26, wherein said database further comprise a 'Key word' index, said 'Key word' index being built from words in said 'Description' field, said 'Actors' field, said 'Hosts' field and said 'Guest stars' field.

28. The system of Claim 27, wherein said means for searching said database according to key words comprises a search engine for searching said 'Title word' index and said 'Key word' index.

5 29. A method of searching a distributed, interactive television program guide database, wherein a viewer searches said program guide database to identify programs of interest, comprising the steps of:

providing a server;

10 providing a client, wherein said client is in periodic communication with said server, and wherein said client downloads current program information from said server;

providing a program guide database resident on said client, wherein said program information is imported into said database;

15 providing an interactive viewer interface displayed on a display means in communication with said client;

providing means for interacting with said viewer interface by said viewer; and

searching said database by said viewer according to at least one of:

program title;

20 indexed program attributes; and

key words.

30. The method of Claim 29, wherein said system is a component of an interactive, network-based video recording system.

25 31. The method of Claim 29, wherein said interface comprises a plurality of screens having interface elements for navigation, entering search values and displaying search results.

30 32. The method of Claim 31, wherein said means for interacting with said interface comprises a remote control unit, said remote control unit communicating with said client by means of a data signal.

33. The method of Claim 32, wherein said data signal is embedded in a carrier signal.

34. The method of Claim 32, wherein said step of searching said database according to program title comprises the steps of
5 optionally, selecting a program category in a first screen; and
entering a program title in a second screen, said second screen comprising:

10 a virtual alphanumeric keypad for entering characters to spell said program title;

a text box for displaying said entered characters; and

15 a scrollable list of program titles, wherein a prefix matching feature causes said list of program titles to automatically scroll to titles in said list having prefixes that match a character string displayed in said text box.

35. The method of Claim 34, wherein said viewer enters characters by activating controls on said remote control that correspond to virtual controls on said keypad.

36. The method of Claim 32, wherein said step of searching said database according to indexed attributes comprises one of the steps of:

searching according to Actor name;

searching according to Director name; and

25 optionally selecting a program category prior to either of said steps of searching according to Actor name or searching according to Director name.

37. The method of Claim 36, wherein a screen for searching according to Actor name comprises:

30 a virtual alphanumeric keypad for entering characters to spell said Actor name;

a text box for displaying said entered characters; and

a scrollable list of Actor names, wherein a prefix matching feature causes said list of Actor names to automatically scroll to Actor names in said list having prefixes that match a character string displayed in said text box.

5 38. The method of Claim 37, wherein said viewer enters characters by activating controls on said remote control that correspond to virtual controls on said keypad.

39. The method of Claim 36, wherein a screen for searching according to
10 Director name comprises:

a virtual alphanumeric keypad for entering characters to spell said Director name;

a text box for displaying said entered characters; and

a scrollable list of Director names, wherein a prefix matching feature
15 causes said list of Director names to automatically scroll to Director names in said list having prefixes that match a character string displayed in said text box.

40. The method of Claim 39, wherein said viewer enters characters by
20 activating controls on said remote control that correspond to virtual controls on said keypad.

41. The method of Claim 32, wherein said step of searching said database according to key word comprises the steps of:

25 optionally, selecting a program category from a first screen; and
entering a key word in a second screen, said second screen comprising

a virtual alphanumeric keypad for entering characters to spell said key word; and

30 a text box for displaying said entered characters.

42. The method of Claim 41, wherein said viewer enters characters by activating controls on said remote control that correspond to virtual controls on said keypad.

5 43. The method of Claim 32, wherein said indexed attributes include any of:

Actor name;

Director name;

Host name;

10 Guest star name;

Choreographer;

Year of release;

Category; and

Language.

15

44. The method of Claim 29, wherein said program guide database comprises an object-oriented database application, said database application including at least:

a 'Series' object; and

20 a 'Program' object.

45. The method of Claim 44, wherein said 'Series' object includes a series 'Title' field.

25 46. The method of Claim 45, wherein said program guide database further comprises a 'Title' index, said 'Title' index being built from said series 'Title' field.

30 47. The method of Claim 46, wherein said means for searching said database according to program title comprises a search engine for searching said 'Title' index.

48. The method of Claim 44, wherein said 'Program' object includes fields for:

Title;

Episode title;

5 Description;

Actors

Hosts;

Guest stars; and

Directors.

10

49. The method of Claim 48, wherein said database further comprises an 'Actor' index, said 'Actor' index being built from said 'Actors,' 'Hosts', and 'Guest stars' fields.

15 50. The method of Claim 49, wherein said database further comprises a 'Director' index, said 'Director' index being built from entries in said 'Director' field.

20 51. The method of Claim 50, wherein said means for searching said database according to 'Actor' or 'Director' or comprises a search engine for searching said 'Actor' and said 'Director' indices.

25 52. The method of Claim 44, wherein said database further comprises a 'Title word' index, said 'Title word' index being built from entries in said 'Title' fields and said 'Episode title' fields.

30 53. The method of Claim 52, wherein said database further comprise a 'Key word' index, said 'Key word' index being built from said words in said 'Description' field, said 'Actors' field, said 'Hosts' field and said 'Guest stars' field.

54. The method of Claim 53, wherein said means for searching said database according to key words comprises a search engine for searching said 'Title word' index and said 'Key word' index.

5

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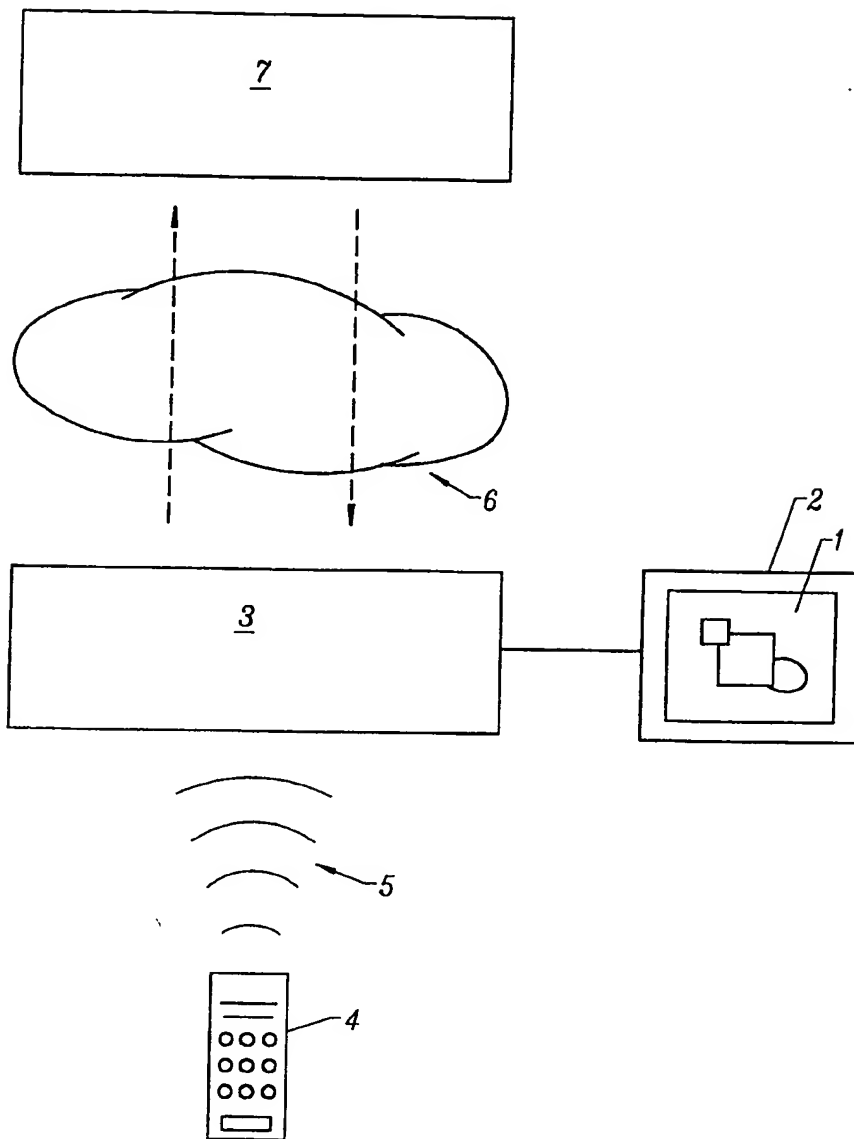


FIG. 1

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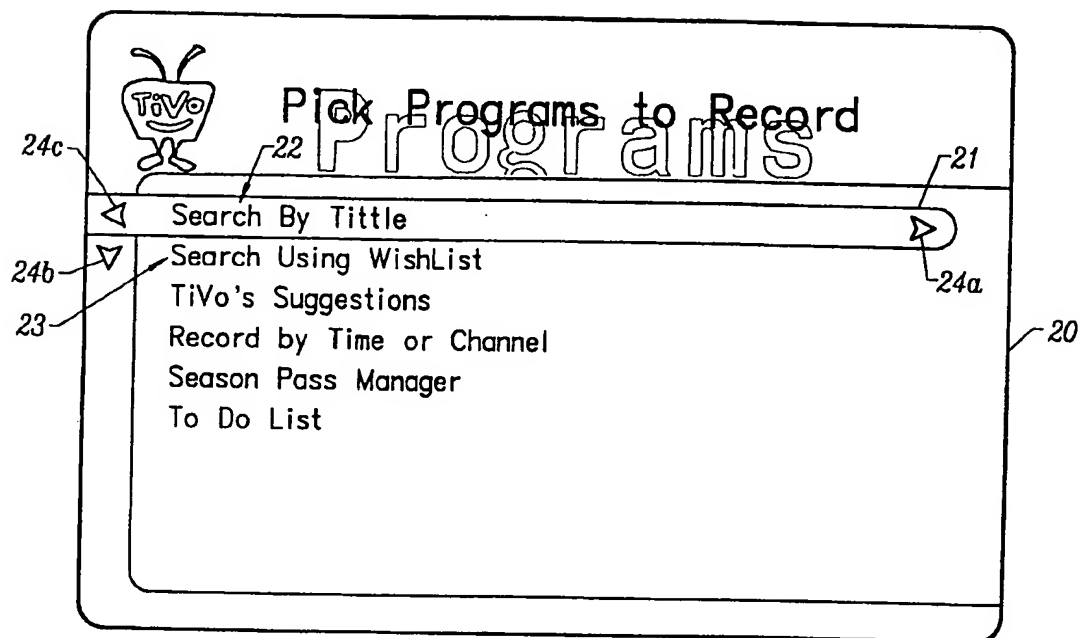


FIG. 2

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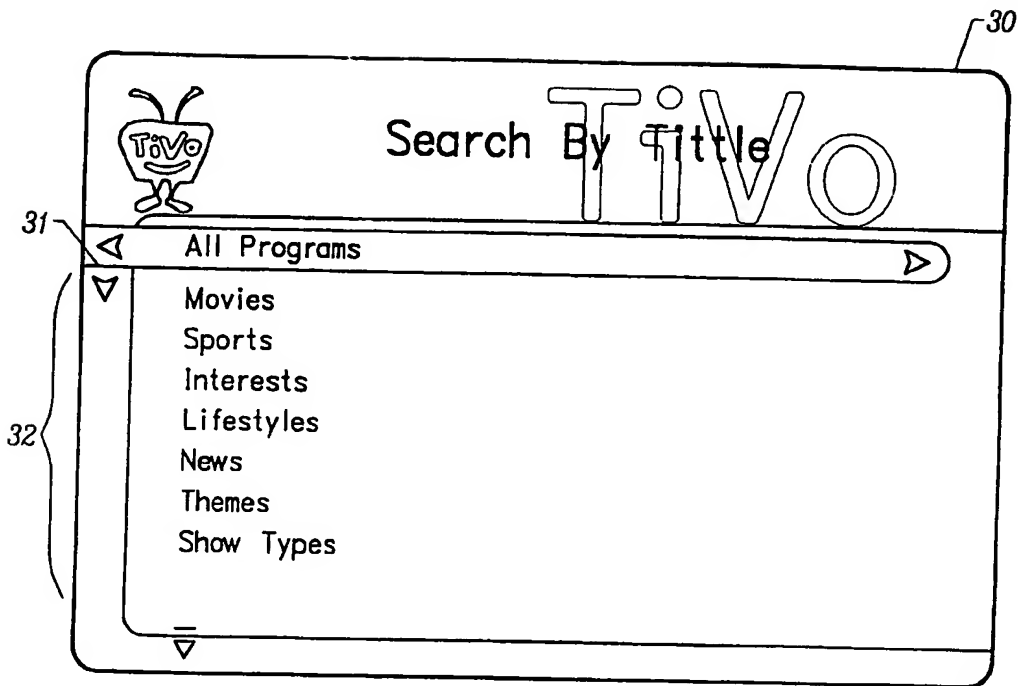


FIG. 3

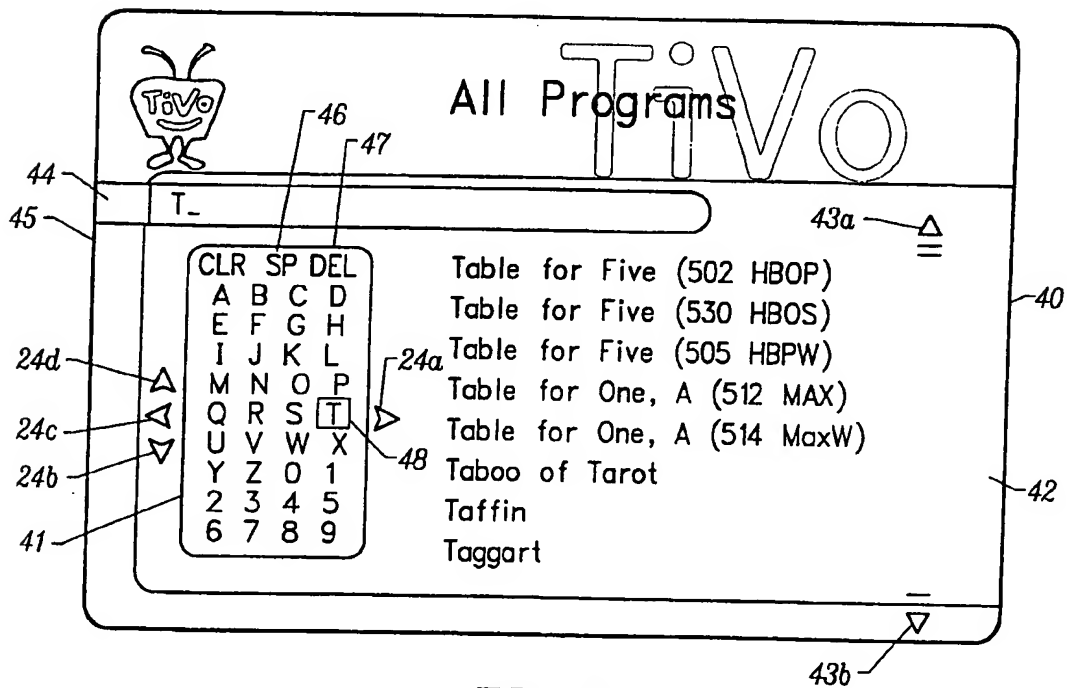


FIG. 4

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Choose Actor by Last Name

FORD, -

CLR SP DEL
A B C D
E F G H
I J K L
M N O P
Q R S T
U V W X
Y Z 0 1
2 3 4 5
6 7 8 9

Ford, Bette
Ford, Catherine
Ford, Constance
Ford, Faith
Ford, Francis
Ford, Glenn
Ford, Harrison
Ford, Maria

50

FIG. 5

Select Category

Actor FORD, HARRISON
You can narrow your search by specifying a category.

Don't specify a category
Movies
Sports
Interests
Lifestyles
News

60

FIG. 6

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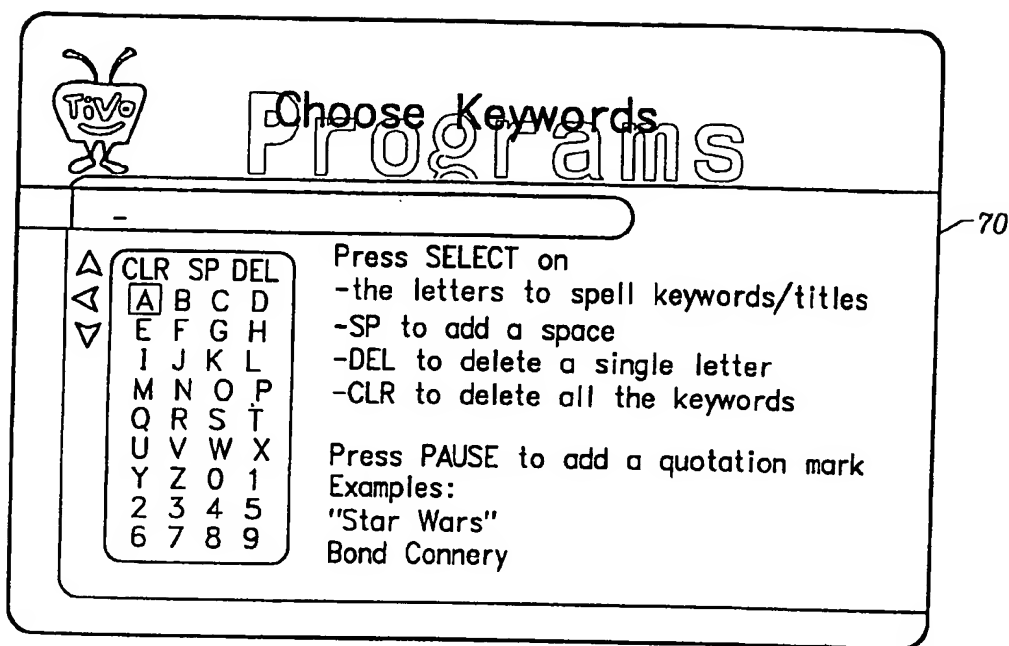


FIG. 7

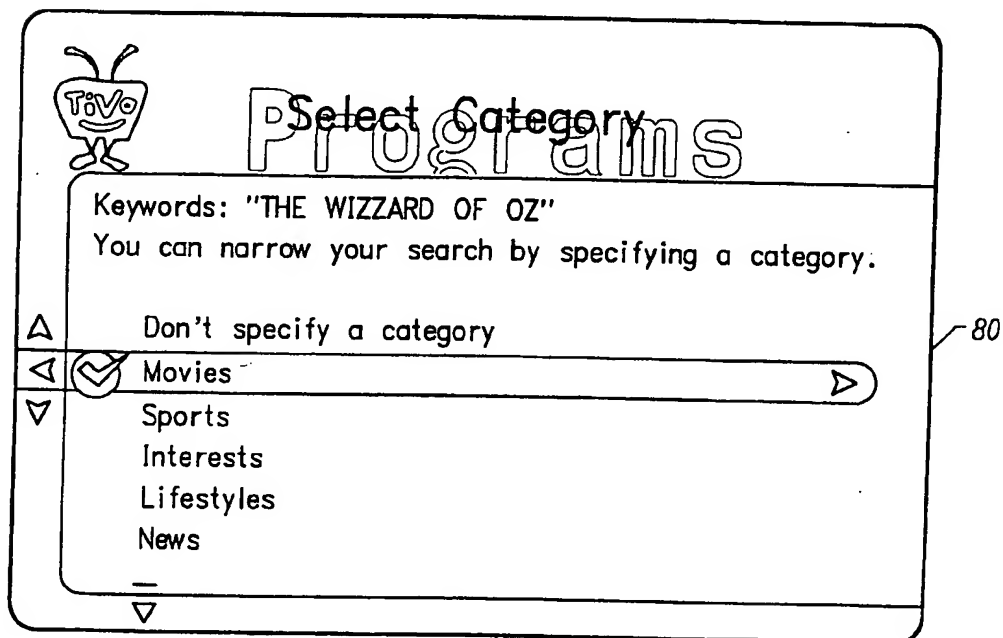


FIG. 8

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